CONTENTS OF VOLUME 14

Number 1

E. Rykkelid and H. Fossen — 1 — Composite fabrics in mid-crustal gneisses: observations from the Øygarden Complex, West Norway Caledonides

W. M. Schwerdtner and E. J. Cowan — 11 — Estimated obliquities between the horizontal traces of X–Y surfaces and foliation trajectories in strained orthogneiss

A. E. Gates — 19 — Domainal failure of serpentinite in shear zones, State-Line mafic complex, Pennsylvania, U.S.A.

R. W. H. Butler — 29 — Thrust zone kinematics in a basement–cover imbricate stack: Eastern Pelvoux massif, French Alps

A. I. Welbon and H. D. Maher, Jr — 41 — Tertiary tectonism and basin inversion of the St. Jonsfjorden region, Svalbard

J. Hadizadeh and J. Tullis — 57 — Cataclastic flow and semi-brittle deformation of anorthosite

F. Hrouda — 65 — Separation of a component of tectonic deformation from a complex magnetic fabric

B. Ildefonse, P. Launeau, J.-L. Bouchez and A. Fernandez — 73 — Effect of mechanical interactions on the development of shape preferred orientations: a two-dimensional experimental approach

M. R. Abbassi and N. S. Mancktelow — 85 — Single layer buckle folding in non-linear materials—I. Experimental study of fold development from an isolated initial perturbation

N. S. Mancktelow and M. R. Abbassi — 105 — Single layer buckle folding in non-linear materials—II. Comparison between theory and experiment

121 — Book Reviews

Number 2

125 — Editorial

G. E. Lloyd and R. J. Knipe — 127 — Deformation mechanisms accommodating faulting of quartzite under upper crustal conditions

G. Hirth and J. Tullis — 145 — Dislocation creep regimes in quartz aggregates

A.-M. Boullier and F. Robert — 161 — Palaeoseismic events recorded in Archaean gold–quartz vein networks, Val d'Or, Abitibi, Quebec, Canada

K. E. Carter — 181 — Evolution of stacked, ductile shear zones in carbonates from mid-crustal levels: Tuscan Nappe, N. Apennines, Italy

J. M. Tubía, J. Cuevas, F. Navarro-Vilá, F. Alvarez and F. Aldaya — 193 — Tectonic evolution of the Alpujárride Complex (Betic Cordillera, southern Spain)

V. J. Morand — 205 — Pluton emplacement in a strike-slip fault zone: the Doctors Flat Pluton, Victoria, Australia

E. D. CHIOTIS and C. E. TSOUTRELIS 215 Estimation of the potential type of faulting in relation to the stress field: the North Aegean case study

G. ZHAO and A. M. JOHNSON 225 Sequence of deformations recorded in joints and faults, Arches National Park, Utah

Z.-M. YIN and G. RANALLI 237 Critical stress difference, fault orientation and slip direction in anisotropic rocks under non-Andersonian stress systems

R. J. LISLE 245 Constant bed-length folding: three-dimensional geometrical implications

Brevia

N. FRY 253 Direction of shear

Number 3

G. OERTEL and A. P. S. REYMER 257 Perturbations of strain and rotation in a nodular slate

S. R. WALLIS 271 Vorticity analysis in a metachert from the Sanbagawa Belt, SW Japan

T. O. WRIGHT and J. R. HENDERSON 281 Volume loss during cleavage formation in the Meguma Group, Nova Scotia, Canada

S. R. PATERSON and O. T. TOBISCH 291 Rates of processes in magmatic arcs: implications for the timing and nature of pluton emplacement and wall rock deformation

R. J. W. GOWER and C. SIMPSON 301 Phase boundary mobility in naturally deformed, high-grade quartzofeldspathic rocks: evidence for diffusional creep

S. LIN and P. F. WILLIAMS 315 The origin of ridge-in-groove slickenside striae and associated steps in an *S–C* mylonite

M. T. SWANSON 323 Late Acadian–Alleghenian transpressional deformation: evidence from asymmetric bondinage in the Casco Bay area, coastal Maine

T. A. LITTLE 343 Development of wrench folds along the Border Ranges fault system, southern Alaska, U.S.A.

S. H. TREAGUS and J. E. TREAGUS 361 Transected folds and transpression: how are they associated?

Brevia

R. J. LISLE 369 Strain estimation from flattened buckle folds

P. W. G. TANNER 373 Vein morphology, host rock deformation and the origin of the fabrics of echelon mineral veins: Discussion

R. NICHOLSON 377 Vein morphology, host rock deformation and the origin of the fabrics of echelon mineral veins: Reply

379 Book Reviews

I International Newsletter 3: Spring 1992

Number 4

S. K. Ghosh, N. Mandal, D. Khan and S. K. Deb — 381 Modes of superposed buckling in single layers controlled by initial tightness of early folds

N. Mandal, D. Khan and S. K. Deb — 395 An experimental approach to wide-necked pinch-and-swell structures

S. H. Treagus and D. Sokoutis — 405 Laboratory modelling of strain variation across rheological boundaries

R. F. Weinberg and H. Schmeling — 425 Polydiapirs: multiwavelength gravity structures

D. Goff and D. V. Wiltschko — 437 Stresses beneath a ramping thrust sheet

M. P. Fischer, N. B. Woodward and M. M. Mitchell — 451 The kinematics of break-thrust folds

O. Averbuch, D. Frizon de Lamotte and C. Kissel — 461 Magnetic fabric as a structural indicator of the deformation path within a fold–thrust structure: a test case from the Corbières (NE Pyrenees, France)

W. C. McClelland, G. E. Gehrels, S. D. Samson and P. J. Patchett — 475 Structural and geochronologic relations along the western flank of the Coast Mountains batholith: Stikine River to Cape Fanshaw, central southeastern Alaska

S. Lin and P. F. Williams — 491 The geometrical relationship between the stretching lineation and the movement direction of shear zones

Brevia

K. H. Fleischmann — 499 A graphical construction for shear stress on a fault surface

Number 5

F. Roure, J.-P. Brun, B. Colletta and J. van den Driessche — 503 Geometry and kinematics of extensional structures in the Alpine Foreland Basin of southeastern France

A. M. Casas-Sainz and J. L. Simón-Goméz — 521 Stress field and thrust kinematics: a model for the tectonic inversion of the Cameros Massif (Spain)

B. Le Gall — 531 The deep structure of the Ardennes Variscan thrust belt from structural and ECORS seismic data

W. Fielitz — 547 Variscan transpressive inversion in the northwestern central Rhenohercynian belt of western Germany

K. Petersen, O. R. Clausen and J. A. Korstgård — 565 Evolution of a salt-related listric growth fault near the D-1 well, block 5605, Danish North Sea: displacement history and salt kinematics

K. O'Hara and A. Haak — 579 A fluid inclusion study of fluid pressure and salinity variations in the footwall of the Rector Branch thrust, North Carolina, U.S.A.

M. Hand and P. H. G. M. Dirks — 591 The influence of deformation on the formation of axial-planar leucosomes and the segregation of small melt bodies within the migmatitic Napperby Gneiss, central Australia

R. Melka, K. Schulmann, B. Schulmannová, F. Hrouda and M. Lobkowicz — 605 The evolution of perpendicular linear fabrics in synkinematically emplaced tourmaline granite (central Moravia–Bohemian Massif)

Brevia

R. CHANDER — 621 Contemporary tectonics of the Himalayan frontal fault system—folds, blind thrusts and the 1905 Kangra earthquake: Discussion

R. S. YEATS and R. J. LILLIE — 625 Contemporary tectonics of the Himalayan frontal fault system—folds, blind thrusts and the 1905 Kangra earthquake: Reply

J. F. M. HIPPERTT and R. P. BORBA — 627 Quartz *c*-axis fabric differences between porphyroclasts and recrystallized grains: Discussion

D. KIRSCHNER and C. TEYSSIER — 631 Quartz *c*-axis fabric differences between porphyroclasts and recrystallized grains: Reply

N. FRY — 635 A robust approach to the calculation of paleostress fields from fault plane data: Discussion

T. M. WILL and R. POWELL — 639 A robust approach to the calculation of paleostress fields from fault plane data: Reply

641 Correction

Number 6

W. VON GOSEN — 643 Structural evolution of the Argentine Precordillera: the Rio San Juan section

P. H. G. M. DIRKS, M. HAND, W. J. COLLINS and R. OFFLER — 669 Structural–metamorphic evolution of the Tia Complex, New England fold belt; thermal overprint of an accretion–subduction complex in a compressional back-arc setting

T. DOUTSOS and G. POULIMENOS — 689 Geometry and kinematics of active faults and their seismotectonic significance in the western Corinth–Patras rift (Greece)

J. J. WALSH and J. WATTERSON — 701 Populations of faults and fault displacements and their effects on estimates of fault-related regional extension

W. C. HANEBERG — 713 Drape folding of compressible elastic layers—I. Analytical solutions for vertical uplift

R. WEIJERMARS — 723 Progressive deformation in anisotropic rocks

Brevia

C. K. MORLEY — 743 Hydrocarbon generation—a possible cause of elevated pore pressures in the Osen–Røa thrust sheet, Norway

M. S. WILKERSON — 749 Differential transport and continuity of thrust sheets

753 Book Reviews

Number 7

S. HANMER, S. BOWRING, O. VAN BREEMEN and R. PARRISH — 757 Great Slave Lake shear zone, NW Canada: mylonitic record of Early Proterozoic continental convergence, collision and indentation

F. FUETEN — 775 Tectonic interpretations of systematic variations in quartz *c*-axis fabrics across the Thompson Belt

T. H. Bell, J. Reinhardt and R. L. Hammond 791 Multiple foliation development during thrusting and synchronous formation of vertical shear zones

B. Abalos 807 Variscan shear-zone deformation of late Precambrian basement in SW Iberia: implications for circum-Atlantic pre-Mesozoic tectonics

S. Seno 825 Finite strain and deformation within the Briançonnais Castelvecchio–Cerisola nappe of the Ligurian Alps, Italy

D. van der Wal, R. L. M. Vissers, M. R. Drury and E. H. Hoogerduijn Strating 839 Oblique fabrics in porphyroclastic Alpine-type peridotites: a shear-sense indicator for upper mantle flow

J. W. Berlenbach and C. Roering 847 Sheath-fold-like structures in pseudotachylytes

R. Westaway 857 Analysis of tilting near normal faults using calculus of variations: implications for upper crustal stress and rheology

H. G. Kerr and N. White 873 Laboratory testing of an automatic method for determining normal fault geometry at depth

Brevia

R. H. Findlay 887 The age of cleavage development in the Ross orogen, northern Victoria Land, Antarctica: evidence from $^{40}Ar/^{39}Ar$ whole-rock slate ages: Discussion

T. O. Wright and R. D. Dallmeyer 891 The age of cleavage development in the Ross orogen, northern Victoria Land, Antarctica: evidence from $^{40}Ar/^{39}Ar$ whole-rock slate ages: Reply

I International Newsletter 4: July 1992

Number 8/9

Special Issue: Mechanical Instabilities in Rocks and Tectonics

v Preface

M. Barquins and J.-P. Petit 893 Kinetic instabilities during the propagation of a branch crack: effects of loading conditions and internal pressure

J. Henderson, I. Main, P. Meredith and P. Sammonds 905 The evolution of seismicity at Parkfield: observation, experiment and a fracture-mechanical interpretation

J.-R. Grasso, J.-P. Gratier, J. F. Gamond and J.-C. Paumier 915 Stress transfer and seismic instabilities in the upper crust: example of the western Pyrenees

T. Rives, M. Razack, J.-P. Petit and K. D. Rawnsley 925 Joint spacing: analogue and numerical simulations

K. D. Rawnsley, T. Rives, J.-P. Petit, S. R. Hencher and A. C. Lumsden 939 Joint development in perturbed stress fields near faults

F. Fueten and P.-Y. F. Robin 953 Finite element modelling of the propagation of a pressure solution cleavage seam

F. Odonne and G. Massonnat 963 Volume loss and deformation around conjugate fractures: comparison between a natural example and analogue experiments

S. Raynaud and E. Carrio-Schaffhauser 973 Rock matrix structures in a zone influenced by a stylolite

Y. Géraud, F. Mazerolle and S. Raynaud 981 Comparison between connected and overall porosity of thermally stressed granites

P. Huyghe and J.-L. Mugnier 991 The influence of depth on reactivation in normal faulting

T. Shimamoto and H. Nagahama 999 An argument against the crush origin of pseudotachylytes based on the analysis of clast-size distribution

E. Carey-Gailhardis and J. L. Mercier 1007 Regional state of stress, fault kinematics and adjustments of blocks in a fractured body of rock: application to the microseismicity of the Rhine graben

J. S. Bell, G. Caillet and A. Le Marrec 1019 The present-day stress regime of the southwestern part of the Aquitaine Basin, France, as indicated by oil well data

H. Fossen 1033 The role of extensional tectonics in the Caledonides of south Norway

D. Marquer and M. Burkhard 1047 Fluid circulation, progressive deformation and mass-transfer processes in the upper crust: the example of basement–cover relationships in the External Crystalline Massifs, Switzerland

P. Philippot and H. L. M. van Roermund 1059 Deformation processes in eclogitic rocks: evidence for the rheological delamination of the oceanic crust in deeper levels of subduction zones

G. E. Lloyd, R. D. Law, D. Mainprice and J. Wheeler 1079 Microstructural and crystal fabric evolution during shear zone formation

P. D. Bons and J. L. Urai 1101 Syndeformational grain growth: microstructures and kinetics

Number 10

W. R. Jamison 1111 Stress spaces and stress paths

N. Fry 1121 Stress ratio determinations from striated faults: a spherical plot for cases of near-vertical principal stress

P. A. Cowie and C. H. Scholz 1133 Physical explanation for displacement–length relationship of faults using a post-yield fracture mechanics model

P. A. Cowie and C. H. Scholz 1149 Displacement–length scaling relationship for faults: data synthesis and discussion

P. A. Gillespie, J. J. Walsh and J. Watterson 1157 Limitations of dimension and displacement data from single faults and the consequences for data analysis and interpretation

P. W. G. Tanner 1173 Morphology and geometry of duplexes formed during flexural-slip folding

P. Visser and N. S. Mancktelow 1193 The rotation of garnet porphyroblasts around a single fold, Lukmanier Pass, Central Alps

R. K. Polinski and G. H. Eisbacher 1203 Deformation partitioning during polyphase oblique convergence in the Karawanken Mountains, southeastern Alps

E. EGAL — 1215 Structures and tectonic evolution of the external zone of Alpine Corsica

A. ARANGUREN and J. M. TUBÍA — 1229 Structural evidence for the relationship between thrusts, extensional faults and granite intrusions in the Variscan belt of Galicia (Spain)

H. TANAKA — 1239 Cataclastic lineations

B. ILDEFONSE, D. SOKOUTIS and N. S. MANCKTELOW — 1253 Mechanical interactions between rigid particles in a deforming ductile matrix. Analogue experiments in simple shear flow

P. STOCK — 1267 A strain model for antithetic fabric rotation in shear band structures

1277 Book Reviews

1281 Correction

1283 Referees for Volume 14

i Contents and Author Index, Volume 14